Complete Summary

GUIDELINE TITLE

Aortic stenosis.

BIBLIOGRAPHIC SOURCE(S)

Aortic stenosis. Philadelphia (PA): Intracorp; 2004. Various p.

GUIDELINE STATUS

This is the current release of the guideline.

All Intracorp guidelines are reviewed annually and updated as necessary, but no less frequently than every 2 years. This guideline is effective from January 1, 2004 to January 1, 2006.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Aortic stenosis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Internal Medicine
Thoracic Surgery

INTENDED USERS

Allied Health Personnel
Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Utilization Management

GUIDELINE OBJECTIVE(S)

To present recommendations for the diagnosis, treatment, and management of aortic stenosis that will assist medical management leaders to make appropriate benefit coverage determinations

TARGET POPULATION

Individuals with aortic stenosis

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. Physical examination and assessment of signs and symptoms
2. Diagnostic tests:
    - Electrocardiogram (ECG)
    - Chest radiograph
    - Echocardiogram
    - Cardiac catheterization/coronary angiography
    - Exercise stress testing (asymptomatic patients)

Treatment/Management

1. Medical management (asymptomatic patients)
    - Endocarditis prophylaxis
    - Avoidance of strenuous activity
    - Cautious use of any medication that affects preload
2. Surgery
    - Aortic valve replacement (AVR)
    - Aortic valve balloon aortic valvotomy

MAJOR OUTCOMES CONSIDERED

- Efficacy of surgical management on clinical outcomes
- Surgical complication rates
- Recurrence rates of aortic stenosis after surgical management

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Searches were performed of the following resources: reviews by independent medical technology assessment vendors (such as the Cochrane Library, HAYES); PubMed; MD Consult; the Centers for Disease Control and Prevention (CDC); the U.S. Food and Drug Administration (FDA); professional society position statements and recommended guidelines; peer reviewed medical and technology publications and journals; medical journals by specialty; National Library of Medicine; Agency for Healthcare Research and Quality; Centers for Medicare and Medicaid Services; and Federal and State Jurisdictional mandates.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

A draft Clinical Resource Tool (CRT or guideline) is prepared by a primary researcher and presented to the Medical Technology Assessment Committee or

the Intracorp Guideline Quality Committee, dependent upon guideline product type.

The Medical Technology Assessment Committee is the governing body for the assessment of emerging and evolving technology. This Committee is comprised of a Medical Technology Assessment Medical Director, the Benefit and Coverage Medical Director, CIGNA Pharmacy, physicians from across the enterprise, the Clinical Resource Unit staff, Legal Department, Operations, and Quality. The Intracorp Guideline Quality Committee is similarly staffed by Senior and Associate Disability Medical Directors.

Revisions are suggested and considered. A vote is taken for acceptance or denial of the CRT.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Diagnostic Confirmation

Subjective Findings

- Substernal chest pain; angina - average survival 5 years after onset
- Dizziness; syncope - average survival 3 years after onset
- Shortness of breath with exertion; symptoms of congestive heart failure - average survival 2 years after onset

Objective Findings

- Systolic ejection murmur (SEM): heard at the 2nd right intercostal space and radiating to the neck with crescendo-decrescendo pattern. Murmur is longer and peaking later with increased severity.

- Systolic thrill: palpated at 2nd right intercostal space or suprasternal notch
- Ejection click: heard at apex, 3rd left intercostal space, or 2nd right intercostal space
- Pulsus parvus and tardus: slow rising and late peaking carotid pulse
- Pulse pressure normal to slightly decreased
- Paradoxically split or single 2nd heart sound (S2)

Diagnostic Tests

- Electrocardiogram (ECG)
- Chest radiograph
- Echocardiogram
    - Diagnosis and assessment of severity of aortic stenosis (AS)
    - Reevaluation of patients with known AS with changing symptoms/signs
    - Assessment of hemodynamic and ventricular function in pregnant AS patients
    - Reevaluation of asymptomatic patients with severe AS
- Cardiac catheterization/coronary angiography
    - Before aortic valve replacement in patients at risk for coronary artery disease (CAD)
    - For assessment of severity of AS in symptomatic patients when aortic valve (AV) replacement is planned
    - When noninvasive tests are inconclusive
    - When there is discrepancy with clinical findings regarding severity of AS or need for surgery
- Exercise stress testing
    - For asymptomatic patients ONLY
        - May provide information not uncovered during the initial clinical evaluation

Differential Diagnosis

- Aortic valve sclerosis, which may produce a similar murmur without the same hemodynamic compromise
- Congenital abnormality resulting from a fibrous diaphragm or aortic narrowing
- Hypertrophic cardiomyopathy (HCM), a.k.a. idiopathic hypertrophic subaortic stenosis
- Discrete congenital subvalvular AS: secondary, from either a membranous or fibrous ridge
- Rheumatic aortic valve disease, which always occurs in conjunction with mitral valve involvement

<u>Treatment Options</u>

- Medical management for asymptomatic patients
    - Prophylaxis for endocarditis with any invasive procedures (encourage excellent dental hygiene)
    - Avoidance of strenuous activity
    - Cautious use of any medication that affects preload
- Surgical management
    - AV replacement (AVR)

        - Surgical intervention of choice in majority of adults with aortic stenosis; substantially improves clinical outcomes even in elderly patients
        - Mechanical valves (durable, but require long-term anticoagulation)
        - Bioprosthetics: xenografts and allografts (not as durable, but anticoagulation is not required, so they may be appropriate for pregnant women or women of child-bearing age)
    - AV balloon aortic valvotomy
        - May be effective in adolescents/young adults with congenital aortic stenosis
        - Very limited role in older adults with calcific aortic stenosis
        - High complication rate (10%)
        - High recurrence rate within 6 to 12 months

Duration of Medical Treatment

- Medical - optimal: 21 days
    - This condition may require medical care for the lifetime of the patient.

Additional provider information regarding primary care visit schedules, referral options, specialty care, and durable medical equipment are provided in the original guideline document.

The original guideline document also provides a list of red flags that may affect disability duration, and return to work goals, including

- Resolving ischemic symptoms
- Resolving congestive heart failure (CHF) symptoms
- Resolving arrhythmias
- After hospitalization for valve replacement

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

General Potential Benefits

Appropriate diagnosis, treatment, and management of aortic stenosis that assist medical management leaders in making appropriate benefit coverage determinations

Specific Potential Benefits

Surgical intervention (AV replacement) substantially improves clinical outcomes even in elderly patients.

POTENTIAL HARMS

Aortic valve balloon aortic valvotomy is associated with high complication rate (10%) and high recurrence rate within 6 to 12 months.

CONTRAINDICATIONS

CONTRAINDICATIONS

Exercise stress testing is contraindicated in symptomatic patients

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Aortic stenosis. Philadelphia (PA): Intracorp; 2004. Various p.

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1997 (revised 2004)

GUIDELINE DEVELOPER(S)

Intracorp - Public For Profit Organization

SOURCE(S) OF FUNDING

Intracorp

GUIDELINE COMMITTEE

CIGNA Clinical Resources Unit (CRU)
Intracorp Disability Clinical Advisory Team (DCAT)
Medical Technology Assessment Committee (MTAC)
Intracorp Guideline Quality Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Policies and procedures. Medical Technology Assessment Committee Review Process. Philadelphia (PA): Intracorp; 2004. 4 p.

Licensing information and pricing: Available from Intracorp, 1601 Chestnut Street, TL-09C, Philadelphia, PA 19192; e-mail: lbowman@mail.intracorp.com.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on November 23, 2004. The information was verified by the guideline developer on December 8, 2004.

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